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Agricultural Memorandum No 690

Simulation of Acute Bronchitis Epidemiology

L P Smith

If the formula of Ag Mem 683

$$143.5 + 0.38F - 12.3D_1 - 1.4D_2 - 2N$$

is used as a basis for a simulation model, assuming that the disease incidence found therefrom can represent the F factor for the following period, a satisfactory fit is found with a correlation between actual and simulated disease of 0.90. The details are given in the Appendix, a start being made in June 1967 and followed through by successive 4 week periods (using only weather data) until August 1974.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

December 1974

APPENDIX

Data Set Number	Disease	
	Actual	Estimated
7	48	48
8	34	47
9	43	50
10	91	70
11	75	97
12	122	127
13	173	138
14	134	137
15	110	134
16	112	106
17	69	87
18	68	77
19	57	65
20	48	57
21	44	53
22	39	53
23	66	70
24	79	92
25	102	113
26	131	139
27	146	142
28	133	137
29	124	128
30	76	98
31	69	86
32	60	73
33	62	61
34	41	51
35	45	51
36	70	59
37	77	71
38	100	105
39	173	136
40	162	144
41	115	134
42	114	118
43	97	100
44	87	79
45	83	62
46	60	54
47	56	52
48	48	53
49	72	56
50	88	82

Data Set Number	Disease	
	Actual	Estimated
51	105	100
52	131	129
53	161	144
54	163	131
55	150	118
56	109	94
57	81	79
58	74	69
59	74	61
60	58	54
61	55	53
62	92	59
63	96	74
64	98	103
65	137	123
66	172	141
67	177	128
68	144	115
69	105	94
70	80	81
71	78	72
72	78	66
73	70	56
74	57	54
75	91	61
76	108	106
77	102	119
78	180	129
79	200	146
80	137	139
81	109	129
82	108	99
83	79	84
84	70	69
85	69	57
86	62	55
87	53	51
88	84	55
89	113	76
90	89	95
91	123	109
92	160	124
93	141	117
94	135	120
95	114	92
96	108	73
97	80	62
98	71	55
99	62	53